

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number
WO 2005/066282 A3

(51) International Patent Classification⁷: **C08L 101/00**,
C08K 5/3435, 5/34, C08L 23/10

(21) International Application Number:
PCT/US2004/043355

(22) International Filing Date:
24 December 2004 (24.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/532,491 24 December 2003 (24.12.2003) US

(71) Applicant (for all designated States except US): **DOW GLOBAL TECHNOLOGIES INC.** [US/US]; Washington Street, 1790 Building, Midland, MI 48674 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHAUDHARY, Bharat, I.** [US/US]; 14 Michelle Court, Princeton, NJ 08540 (US). **CUNTALA, Randall, M.** [US/US]; 115 Mount Pleasant Road, Columbia, NJ 07832 (US). **ES-SEGHIR, Mohamed** [US/US]; 5 Robin Lane, Monroe Township, NJ 08831 (US). **KLIER, John** [US/US]; 5717 Stillwater Lane, Midland, MI 48642 (US). **CHEUNG, Yunwa, W.** [US/US]; 104 Rosemary Lane, Lake Jackson, TX 77566 (US).

(74) Agent: **HANSBRO, Kevin, R.**; The Dow Chemical Company, Intellectual Property, P.O. Box 1967, Midland, MI 48641-1967 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
9 September 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RHEOLOGY MODIFICATION OF POLYMERS

(57) Abstract: The present invention is a rheology-modifiable polymeric composition. The resulting rheology-modified polymer is prepared from at least one polymer which upon forming free radicals preferentially degrades or carbon-carbon crosslinks. The present invention permits suppression of the preferential reaction while permitting the polymer to be coupled through a free-radical trapping species. Suppressing the undesirable degradation or carbon-carbon crosslinking reaction and permitting the desirable coupling reaction yield a rheology-modified polymer.



WO 2005/066282 A3